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QUASI-STATIC ELECTRIC FIELDS OF THE HUMAN BODY: COPPER WALL RESEARCH AT THE MONROE INSTITUTE

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Ross is an electrical engineer who has been involved in consciousness and physiological monitoring research since his undergrad days at the Experiential Learning Lab at Duke University. He continued his education at Duke in both engineering and psi research, earning a Ph.D. in electrical engineering in 1992. During that time he was involved in the design and construction of instrumentation for neurofeedback , heart monitoring, and the detection of physiological correlates of psi phenomena. He next worked with researchers at the University of North Carolina, designing and constructing high-density EEG data acquisition systems, with applications in simultaneous fMRI and EEG imaging. In 2010 he joined the staff at the Division of Perceptual Studies at the University of Virginia where he is the co-director of the Westphal Neuroimaging Lab and is engaged in physiological studies of psi phenomena. The Monroe Institute presents a great opportunity for research in consciousness and human potentials, and Ross is busy upgrading the technical foundation in the labs for launching all kinds of studies.

Research in the Copper Wall Room (CWR) at Roberts Mountain Retreat resumed last year and the research team (Nancy McLaughlin and myself, with assistance from the awesome Monroe staff) have been busy upgrading the facility, perfecting the study protocol and testing innovations in body electric field measurements. Along the way Monroe program participants have been demonstrating novel electric field patterns corresponding to subjective experiences of energy and emotion, and in one case (so far) an apparent response to mental intention from another person. We now have enough data to write up case studies for publication.

Fig. 1 Copper Wall facility with Amanda (Mina) testing simultaneous EEG, electric field and magnetic field measures.

For more information regarding the Copper Wall facility (Fig. 1), see the previous CWR research blog posts. (https://archive.org/details/mi-research-files-copper-wall-project)

In a nutshell, this is a controlled environment for accurately measuring DC and very low frequency ("quasi-static") electric fields generated by the human body. These are not the familiar electrophysiological voltages such as ECG or EEG from heart and brain activity, being larger in amplitude and measured as an electric field with respect to a distant reference, earth ground. The measurement technique was pioneered by Elmer Green and team at the Menninger Institute in the late twentieth century, and we set about replicating this work starting in 2019. We have now observed every aspect Green reported, and more, from very large DC levels of 70 volts to low frequency AC oscillations and pulses. The measurement technique is challenging since unwanted electric fields can be generated by movement, and intensified by some types of clothing, furniture, shoes and rugs. We are expanding the range of accurate measurement into low field levels by reducing these sources of interference or identifying them when they occur. In addition, we are carefully tracking the subjective experiences reported by participants with questionnaires and interviews. With this

approach we have observed interesting patterns of electric field activity appearing in Monroe participants and are exploring potential applications for a new type of biofeedback.

The study of Monroe participants first started in 2019 and resumed last summer, generally in the form of 20-minute solo sessions in which participants were asked to engage in some type of activity involving the perception of energy. Interesting effects were observed in some participants, but so was a lot of interference, especially from the rug surrounding the copper wall booth. After replacing the old rug with a modern static dissipating carpet and upgrading the earth ground rods, the picture became clearer in spring of 2023 in runs with several volunteer participants. In June 2023 the 6514 electrometer blew out (again), inspiring a reexamination of the measurement hardware. Electrometers are expensive ($6,000) and are single channel only. It was apparent from the data already collected that “unexplained” electric field effects were appearing on some human bodies simultaneously with reports of energetic or emotional experiences. If this appears at a single location, could there be some kind of topography to the field such as lateral differences? In other words, multiple channels are desirable for exploration. In response to this need, a prototype single channel mini-electrometer was constructed. We used this device in several runs with Monroe participants in late summer and fall of 2023 with results similar to those obtained with the 6514 electrometer. The smaller device will allow relatively fast and inexpensive expansion of the number of channels going forward.
In the following, three cases representing some of the patterns observed so far are presented. The units of measure are volts, the output of the electrometer in response to the amount of charge near the electrode and thus the electric field strength in this area of the body (earlobe or neck locations).

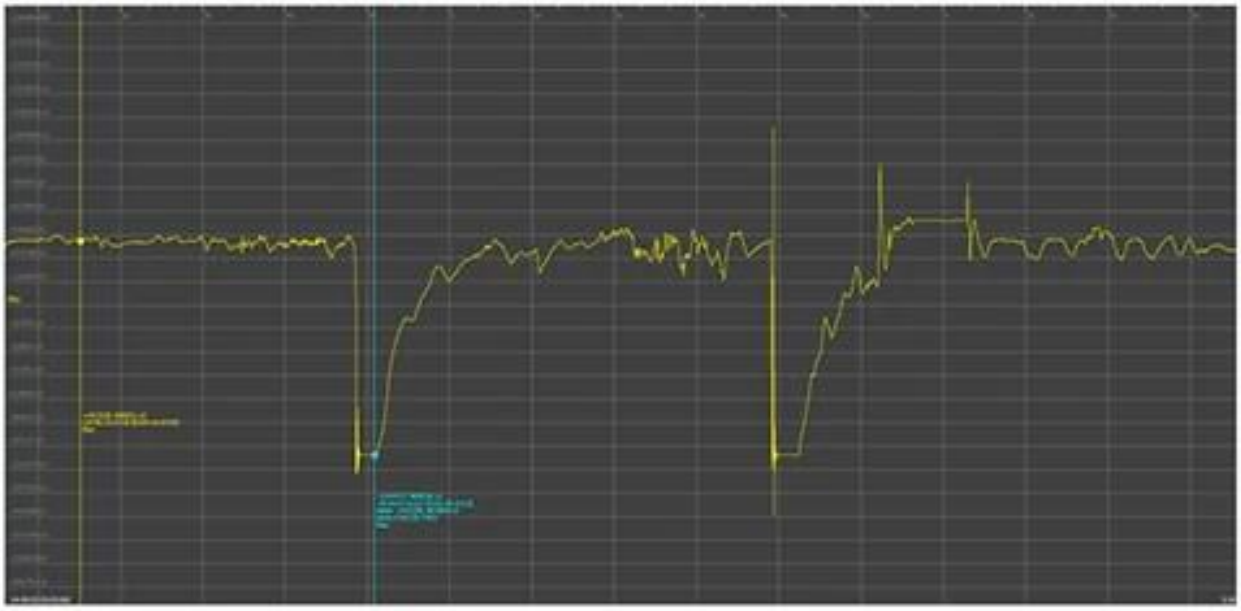

Fig. 2 Pulses on demand, approximately 1.4 volts pulse magnitude. Time is 10 seconds per grid mark.

The first case is a replication of the negative going pulse observed by Green et.al. (Fig. 2). The pulses are about 10 seconds long (Green observed 5-15 sec pulses) and are about 1.4 volts in magnitude. Of great interest, the participant could generate these at will, reporting “bringing up energy” just before they occur. There is some complexity in these pulses that does not appear in step-function tests of the electrometer, implying some sort of electrophysiological activity in response to momentary movement of charge in the body. Further analysis is underway.

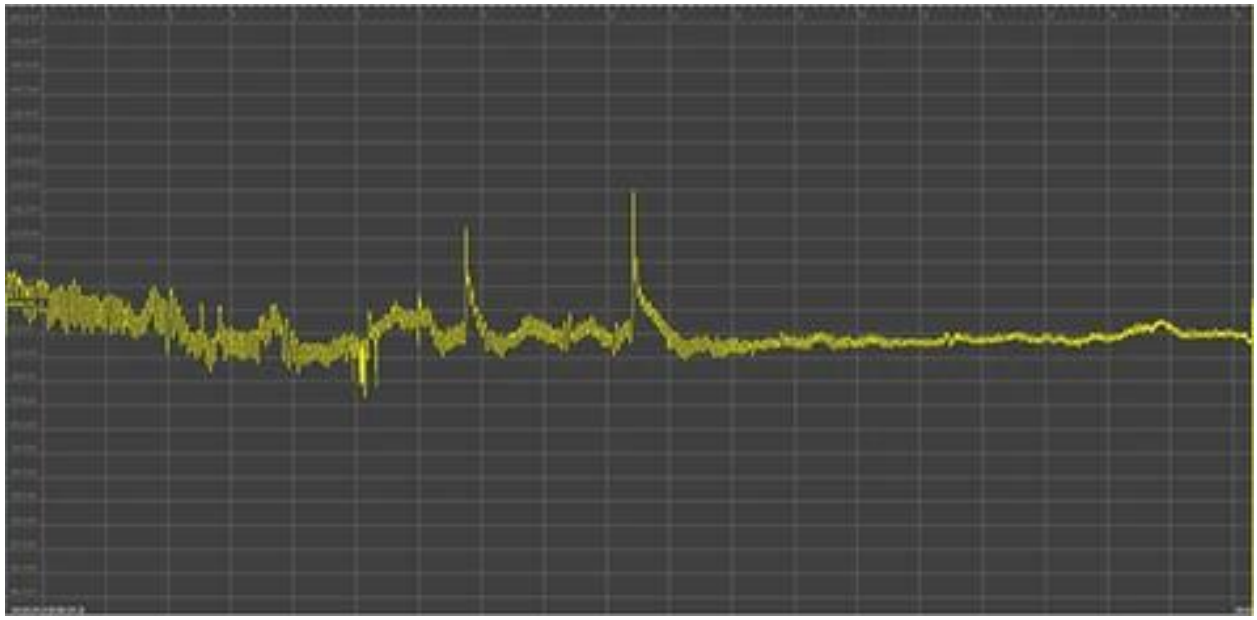

Fig. 3 Cycling, amplitude corresponding to energy visualization. Time is 1 minute per grid mark.

Case 2 (Fig. 3) represents a category of response observed in at least three participants so far (dubbed “cycling”). On the left side an oscillatory pattern following breathing can be seen, following a rate of about two seconds on the inhale and one second on the exhale. About halfway through the session, the amplitude rapidly diminishes, but the rate remains the same. Video shows the participant breathing normally throughout the session, so even though the pattern follows breaths, the electric field is not driven solely by a physical movement effect. The participant reported “circulating energy” until it was balanced, about halfway through the session. Other cycling patterns have been observed in some participants, such as diminishing amplitude in combination with a rising DC level, or very large cycling amplitudes not attributable to breathing movement alone.

Fig. 4 E-field response during Edd Edwards energy session. Yellow line marks lowest field level. Difference from low point to peak is 0.86 volts. Blue line marks point the Edd stopped. Time is 10 seconds per grid line.

Case 3 (Fig. 4) appears to be an example of “distant mental intention on a living system” (DMILS), or perhaps a direct energy transference of some sort. The participant was standing with eyes closed, and the electric field showed a stable DC baseline for several minutes, when it suddenly started rising, accelerating to a peak. During this time Edd Edwards was standing about 20 feet away from the CWR, “sending energy” to the participant. After the peak, the amplitude reduced about 50%, and leveled out for about 50 seconds. It then suddenly started dropping again at the point marked by the blue line, which also corresponds to the time Edd stopped sending energy. After about 25 seconds the amplitude again levels off, for about 40 seconds, and then rises until the end of the session. The participant reported feeling like a capacitor being charged and then discharged, with an overall sense of feeling energized. In the solo part of the session before Edd arrived, the electric field was stable with possibly some small excursions, but nothing like the big move that appeared later during the Edd session. It was quite the experience to see the field level drop off the second Edd stopped his energy intention, and we intend to explore DMILS effects in future work with Edd and Monroe participants.

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Other patterns observed on participants included DC level shifts and single large positive pulses. Often the pulses corresponded to singular events such as experiencing

a strong emotion, especially love (e.g., “I was surrounding my children with intense love” or “My heart chakra was opened”, and similar). Some participants experienced these types of events without a corresponding electric field pattern, and some participants had consistent calm field activity with stable DC levels throughout the session. We’re continuing to collect subjective reports from the participants to compare with the electric field measurements. As for explaining the source of large amplitude DC and low frequency electric fields surrounding the human body, the case is still open. There is no known physiological mechanism including skin potential that accounts for such fields, other than the recognition of charge concentrations and movements near the point of measurement. However, with careful control of interference and artifacts, it is evident that the quasi-static electric field is a component of the human biofield that is correlated to some types of subjective experience, and perhaps more.

The next step is to conduct multi-channel electric field studies with the benefit of everything we have learned about making accurate measurements. We have a superb facility for running these types of experiments and the best part is working with Monroe participants. Hopefully this work will provide useful tools for the journey into greater understanding of consciousness and ourselves.